

SUPPLEMENTAL EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Burton A. Amernick (Reg. No. 24,852) on May 16, 2008.

The application has been amended as follows:

In the claims:

1-4 (Cancelled).

5. (Currently Amended) A curable composition comprising a maleimide terminated rubber, an epoxy resin, and a curing agent having a functional group capable of reacting with the maleimide structure; wherein the maleimide terminated rubber is the reaction product of a rubber having an imino group on both ends of the rubber molecule and a bismaleimide compound; and wherein the functional group of said curing agent is at least one member selected from the group consisting of an amino group, an imino group, and a thiol group.

6-10 (Cancelled).

11. (Currently Amended) A prepreg comprising the curable composition of claim 5 and a reinforcement fiber; wherein said prepreg is obtained by impregnating the reinforcement fiber with the curable composition.

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Allowable Subject Matter

2. Claims 5 and 11 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The scope of the term "imino group" has been re-evaluated in light of: (a) the Information Disclosure Statement filed April 17, 2008, and (b) Applicant's previous response filed December 14, 2007.

As discussed in the Allowance dated January 24, 2008, Applicant's schematic presentation involving the *imino*-terminated rubber did not reflect the common interpretation of an *imino group*. Rather, Applicant's schematic presentation reflected a rubber terminated with *secondary amino groups*. Specifically, it involved the reaction of a bismaleimide compound and a rubber terminated with piperazinyl (*secondary amine*) groups. At the time, the Examiner dismissed this as an error wherein: "A diimino-rubber (*featuring two terminal imino groups*) features a double bond between carbon and nitrogen atoms and should be represented as follows: $\text{HN}=\text{R}'=\text{NH}$ (R' represents rubber with terminal carbon atoms)."

Upon reviewing the IDS, particularly the reference of Shima et al. (US Pat. No. 5,446,080), it became unclear what exactly Applicant meant by "imino group". Upon further investigation, the Examiner's interpretation of *imino group* was indeed the most common interpretation; however, this term can also mean: "relating to a compound containing the divalent radical NH united to alkyl or other nonacid radicals." In other words, it is another way of expressing a *secondary amino group*. After further consideration, this also appeared to be the more chemically viable interpretation in the context of the reaction with a bismaleimide compound. The Examiner's previous interpretation *would not* have been sufficiently

Art Unit: 1796

nucleophilic to react with the electrophilic bismaleimide compound. When interpreted as a *secondary amino group*, this material *would* have been sufficiently nucleophilic to react with the electrophilic bismaleimide compound.

The Examiner contacted Mr. Amernick to inquire about Applicant's intended meaning of the term “imino group”. After consulting with the Applicant, Mr. Amernick confirmed that the intended meaning was indeed a *secondary amino group*.

Turning to the art, Sakumoto et al. (US Pat. No. 5,609,956) disclose a reaction product of a bismaleimide compound and piperazinyl (*secondary amine*) terminated rubber. This material is used as an adhesive in adhesive tapes. The bismaleimide compound and the piperazinyl terminated rubber are the core ingredients of Sakumoto et al., and they fail to reasonably teach or suggest using the reaction product thereof as an additive to another curable system. Therefore, Sakumoto et al. fail to teach or suggest the use of the instantly claimed reaction product in concert with a thermosetting composition comprising an epoxy resin and curing agent, as set forth in claim 5.

Accordingly, Applicant has agreed to make claim 5 an independent claim, including all of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

May 19, 2008